

NOVEMBER/DECEMBER 2023

**FPE10C/CPE10C — PROFESSIONAL
ENGLISH FOR PHYSICAL SCIENCES**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.



1. Rearrange the given words in the proper order:
prevent / treat / and / medication / to / used / a /
HCQ / is / Malaria
2. Rearrange the given words in the proper order:
had/toxicities/compound/significant/the
3. What is a process description?
4. What is role play?
5. Write a sentence using the following word:
Mystery
6. Write a sentence using the following word:
Discovery
7. What is Gravity?

8. What is phenomenon?
9. What is navigation?
10. What is GPS?



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions.

11. (a) Fill in the blanks with suitable words from the choices given in the bracket.

(*Prism, Matter, Radiation, light, Interaction*)

Spectroscopy _____ is the study of the _____ between _____ and electromagnetic _____ via electron spectroscopy, _____ atomic spectroscopy. Historically, spectroscopy originated through the study of visible dispersed according to its wave length, by a _____.

Or

- (b) Write a short passage comparing and contrasting Alternative Current and Direct Current.
12. (a) Write the steps to write extended definitions.

Or

- (b) Write a paragraph on the ways and means of saving electricity.

distance and from that length, determine how steep it is. The same principles can be used for navigation. For instance, a plane can use its _____ above the ground and its distance from the destination airport to find the correct place to begin a descent to that airport.

13. (a) Write a short paragraph detailing the similarities and differences between Biomass and biofuels.

Or

- (b) Read the text and find out who I am.
- (i) I am an extremely thin film of soapy water.
 - (ii) I am a curved band of different colours that appears in the sky when the sun shines through rain.
 - (iii) I am a mass of small air bubbles on the surface of a liquid.



14. (a) Match the following:

- (i) Interference (1) a surface that is having an outline or surface curved like the exterior of a circle or sphere or is thinner in the edges than in the middle
- (ii) Mean curvature (2) an extrinsic measure of curvature that comes from differential geometry and that locally describes the curvature of an embedded surface in some ambient space such as Euclidean space

- | | |
|--------------------------------|--|
| (iii) Young – Laplace equation | (3) a nonlinear partial differential equation that describes the capillary pressure difference sustained across the interface between two static fluids, such as water and air |
| (iv) Surface tension | (4) the tendency of liquid surfaces to shrink into the minimum surface area possible |
| (v) Concave surface | (5) a surface that curves inward, or is thinner in the middle than on the edges

(6) a phenomenon in which two waves superpose to form a resultant wave of greater, lower, or the same amplitude |

Or

- (b) Explain the meaning of the following words:
Portable, Broadcast, Compete.
15. (a) Write in your own words about the origin of the universe.

Or

- (b) Write a summary of the following passage:
The Big Bang Theory is supported by strong empirical evidence that makes it universally accepted. However, the scientific community was divided between the Big Bang and its

- (d) Length of the slope
(e) Pythagorean theorem
(f) Height
(g) Hypotenuse
(h) Right angles

The Pythagorean theorem states that with a right-angled triangle, the sum of the _____ of the two sides that form the right angle is equal to the square of the third, long side, which is called the _____. One of the classic uses of the Pythagorean theorem is in laying the foundations of buildings. To make a rectangular foundation, you need to make _____. But how can you do that? When you have the length and width, you can use _____ it to make a precise right angle. A theorem is a great tool for solving distance between two points and creating symmetrical designs in games like Minecraft. Its also useful to cartographers, who use it to calculate the _____ of hills and mountains. A surveyor looks through a _____ toward a measuring stick a fixed distance away, so that the telescopes line of sight and the measuring stick form a right angle. Since the surveyor knows both the height of the measuring stick and the horizontal distance of the stick from the telescope, he can then use the theorem to find the _____ that covers that



- (d) What are the uses of these electrical gadgets in today's world?
- (e) What will the increase in the usage of electronic devices lead to?

18. Write a sentence using each of the following words as shown in the example:

Voyage

Ans: Sea voyages are interesting.

- (a) Urge
- (b) Congress
- (c) Molecule
- (d) Demonstrate
- (e) Phenomenon

19. Write five sentences about the significance of Newton's theory in Physics.

20. Read the text and fill in the gaps with the following words:

- (a) Telescope
- (b) Steepness
- (c) Squares

rival, a steady-state model for much of the 20th century. The characteristics of the initial state of the universe in extreme density and temperature can be calculated using the laws of physics. Big bang theory offers an explanation for the initial expansion of the universe and observes phenomena such as the abundance of light elements, the CMB, large-scale structure, and Hubble's law. Hubble's law in physical cosmology detects that galaxies move away from Earth at velocities proportional to their distance or in other words, the further they are the faster they move away from Earth.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.



16. Read the following passage and answer the questions:

Vaseline is a kind of petroleum jelly-based products. The products include plain petroleum jelly and many varieties of skin creams, soaps, lotions, cleansers, and deodorants. Petrolatum, or petroleum jelly, derived from petroleum, is often used in personal care products as a moisturizing agent. In many languages, the word "Vaseline" is used as generic for petroleum jelly; in Portugal it is called as Vaselina, and in Brazil and some Spanish speaking countries, the products are

called Vaseline. In 1859, Robert Chesebrough, a chemist who formerly clarified kerosene from the oil of sperm whales, travelled to the oil fields in Titusville, Pennsylvania to research what new materials might be created from this new fuel. There he learned of a residue called rod wax that had to be periodically removed from oil rig pumps. The oil workers has been using the substance to heal cuts and burns. Chesebrough took samples of the rod wax back to Brooklyn, extracted the usable petroleum jelly, and began manufacturing a medicinal product he called Vaseline. The name Vaseline was first coined by Chesebrough and filed a U.S. patent (U.S. Patent 127,568) in 1872. The name "Vaseline" is said by the manufacturer to be derived from German Wasser "water" + Greek (elaion) "olive oil". Vaseline was made by the Chesebrough Manufacturing Company until the company was purchased by Unilever in 1987.

Sources

White petrolatum, the ingredient in petroleum jelly Vaseline, is refined from petroleum.

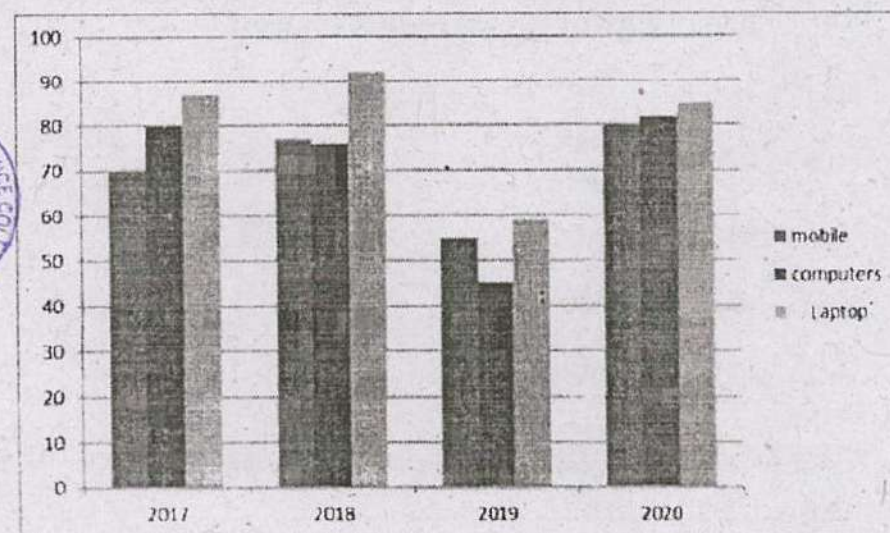
Uses

Vaseline can be used as a lubricant, it can also be used as a moisture insulator for local skin conditions characterized by tissue dehydration. Vaseline has been reported to be highly refined, triple-purified and regarded as non-carcinogenic.

Say whether following sentences are True or False

- (a) Vaseline is a moisturizing agent
- (b) The Rodwax is used to heal cuts and burns
- (c) Vaseline is a non-medicinal product
- (d) The name Vaseline is derived from water and olive oil
- (e) Vaseline is carcinogenic

17. Observe the chart and answer the questions:



- (a) Identify the type of graph given above.
- (b) What are the electrical gadgets mentioned in the graph?
- (c) Which Appliance has the least usage in 2019? Which Gadget was mostly used by people in 2017?